

METHODS AND DEVICES FOR ACTIVE BIOASSAY

ABSTRACT OF THE DISCLOSURE

The present invention provides an active assay method for detecting a biological analyte. According to the method, a probe molecule is immobilized on a surface. An analyte is then placed in fluidic connection with the probe molecule on the surface. A force is then applied to the analyte to move it toward the surface to facilitate contact and possibly binding of the analyte to the probe;. Optionally, another force can be applied or the force can be reversed, to remove unbound or weakly bound analyte from the surface. Analyte that remains bound to the surface is then detected. The detection can include rolling or sliding beads over an analyte and/or probe on a substrate, and detecting bound beads. The present invention furthermore, provides devices, such as electrophoresis apparatuses and biochip assemblies, for carrying out the methods of the invention.